Believed extinct, rare jewel blooms at Site 300

LLNL's wild side

By Lisa Paterson

The diamond-petaled California poppy *(Eschscholzia rhombipetala)* was thought to be extinct for approximately 50 years when it was rediscovered in the Carrizo Plain in San Luis Obispo County by a botanist from Cal Poly, San Luis Obispo. A second population was found at Site 300 in 1997 during a habitat survey, and an additional population was again found at Site 300 in 2002. These are the only locations where the diamond-petaled California poppy is currently known to occur worldwide.

Both Site 300 locations are found in remote areas away from programmatic activities. The diamond-petaled California poppy was probably never wide spread and remains one of the rarest plants in California. Only seven historic populations are known. All historic populations were found in the inner Coast Ranges in Contra Costa, Stanislaus and San Luis Obispo counties. The Corral Hollow area, where Site 300 is located, is known for its diverse flora including several extremely rare species. Four hundred and six species of plants are known to occur at Site 300. Eight of these are considered rare plants or limited in distribution.

Tina Carlsen

Diamond-petaled California poppy *(Eschscholzia rhombipetala*

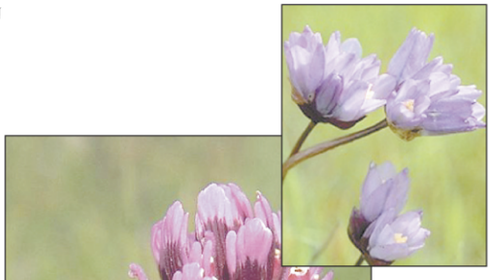
California is a state rich in native plants. More than 6000 species of native or naturalized plants occur in California, more than occur in the entire northeast United States and adjacent portions of Canada. More than 16 percent (1,020 species) of these plants are considered rare or endangered by the California Native Plant Society (CNPS). Another 8 percent (554 species) of California native plants are included on CNPS's watch list of species of limited distribution; these are species identified at risk for becoming rare, including the diamond-petaled California poppy.

The diamond-petaled California poppy is a small annual forb (broad leaved non-woody plant). Diamond-petaled California poppies found at Site 300 are typically less than 15 centimeters tall when flowering. The diamond-petaled California poppy has small yellow flowers unlike the showy orange flowers of its common relative the California poppy *(Eschscholzia californica)*. In addition to its larger size and orange petals, the California poppy can be distinguished from its rare relative by a disk shaped rim on the receptacle that is found directly below the petals of the California poppy.

Research conducted at Site 300 by LLNL's Environmental Protection Department has focused on determining the ecological requirements of the diamond-petaled California poppy. This rare poppy is a grassland species that is typically found in heavy clay soils. At Site 300, this species occurs in and around small patches of open bare ground caused by slumping hillsides. As is common with many grassland forbs in the Livermore area, the California diamond-petaled poppy only flowers during a short period from late March to early April.

The causes for the extreme rarity of the diamond-petaled poppy are unknown. Throughout California many plant species are rare because they occur in habitats that naturally have a limited distribution, such as plants restricted to rare soil types (e.g. serpentine endemics). Other plant species become rare through human impacts to their habitats, as is the case with many vernal pool species. In addition, some California species are thought to be rare because they are "old" species, such as the Torrey pine *(Pinus torreyana)* that were once more widely distributed and became more restricted in their distribution because of climatic changes.

As the weather gets warmer and the days get longer over the next few weeks, the annual forbs that make up a large part of the grasslands that surround the Livermore site and Site 300 will come to life forming patches of color on the Livermore hillsides. Though very few people will be lucky enough to see the rare and diminutive California diamond-petaled poppy this spring, look for the beautiful patches of color formed by more common annual forbs on the hillsides that surround the Livermore site and Site 300. Some common spring colors in the Livermore area are purple owl's clover (purple/pink) *(Castilleja exerta);* common fiddleneck (orange) *(Amsinckia menziesii);* cupped monolopia (yellow) *(Monolopia major);* and blue dicks (purple/blue) *(Dichelostemma capitatum).*



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Left, purple owl's clover *(Castilleja exserta); above,* blue dicks *(Dichelostemma capitatum); below,* California poppy *(Eschscholzia californica)*

Br. Alfred Brousseau, Saint Mary's College

Beth Leger